be decreased by retarded innervation. 9. This retardation can be obtained by electric tetanization of the vagi, by accelerating respiration, or by local venous engorgement (constricting the portal vein) 10. Such contractions are stronger after section of the vagi in the neck, and do not cease when the splanchnics are divided in the abdomen. 11. If all the vagal branches which do not directly supply the cardia, are divided, one obtains, through electrical stimulation of the vagi by a power current, a strong expansion of the cardia, this decreasing excitability lasting a long time. 12. If one succeeds in destroying the cardial fibres, while the fibres of the stomach are left intact, irritation of the vagi will produce closure of the cardia with every strong current. This function is easily exhausted, but soon returns to its former state. In this way special constrictor nerves of the cardia are recognized. 13. After interrupting all sympathetic connections between the abdominal ganglia and the stomach the above phenomena remain unaltered.—*Centralb. f. die med. Wissensch.*, Aug. 4, 1883.

Uterine Milk.

A recent number of the *Zeitschrift für Geburtshülfe und Gynäkologie* contains an article by Dr. G. VON HOFFMANN, of Wiesbaden, in support of the doctrine advocated by Ercolani, and to a certain extent by Dr. Braxton Hicks, viz., that the fœtal villi in the placenta do not float naked in the maternal blood, but are surrounded by cells whose function it is to secrete a special fluid serving for the nutrition of the fœtus, and called uterine milk. Dr. von Hoffmann believes that he has been able to extract this fluid from the human placenta. His method is simply this—he takes a quite fresh placenta, which has not been allowed to come into contact with water, and lays it with its maternal side uppermost. A cotyledon, the integrity of which has not been damaged, is then selected, and carefully dried with a sponge or towel, so that no blood adheres to it, and into a capillary tube is then pressed, so that it may penetrate about one third or half an inch. The tube thus used pushes the villi aside, and lies in the inter-villal space. It is important in inserting the instrument to see that no bloodvessels are injured by it, lest blood be effused between the villi. When a capillary tube is employed in this manner it sucks up the fluid from the inter-villal space (*i. e.*, the uterine milk), which can then be collected and examined. Dr. von Hoffmann has examined the fluid from about forty placentæ, some at term, others from cases of absorption at different months. Microscopically, he finds in it the following constituents: 1. Red blood-corpuscles of different sizes and depth of colour, often, especially in placentæ of the earlier months, with little or no tendency to aggregate into rouleaux. 2. White corpuscles. 3. The chief structures contained are what the author calls "uterine milk-globules," peculiar, clear, round globules, having a very thin, feebly refracting wall, on the average about as large as white corpuscles, but varying from a tenth of, to twice, their size. These bodies precisely resemble those seen in "uterine milk" obtained from the placenta of the cow. 4. Clear watery intercellular fluid. The above-described "uterine milk-globules" are present in such numbers that Dr. von Hoffmann calculates that each cubic millimeter of the fluid contains 180,000 to 200,000 of them. 5. There are also found free decidual cells and pigmentary molecules, granules, and flakes of different shapes and sizes, which our author regards as products of the disintegration of red blood-corpuscles. Fluid such as this, Dr. von Hoffmann states, can be extracted from every healthy placenta; if it is wanting, the placenta is not healthy. He believes, moreover, that he has traced the mode of formation of these "uterine milk globules" from decidual cells, and the production of the large decidual cells from the many nucleated "giant-cells" of the decidua.

Dr. von Hoffmann's views as to the physiology of fœtal nutrition are summed up in the following propositions: 1. The general office of the decidua, both in animals and in man, is to supply the fœtus during its intra-uterine life with a part of the nutritive material necessary for its growth. To fulfil this function the decidua serotina becomes a special milk-secreting organ, which, after the birth of the child, is expelled with, and as an integral part of, the placenta. 2. The secretion of this organ, the so-called uterine milk, is separated into gradually formed spaces, in which lie the placental tufts. Here the uterine milk is mixed with maternal blood, which is at the same time extravasated, and together with it forms the material for nutrition of the fœtus, this material being only suited for absorption by the placental villi when these changes have taken place. 3. From the point of view of the comparative anatomist, it can no longer be maintained that there is any essential difference in this respect between the placenta of man and the higher animals. Dr. von Hoffmann promises a further communication in which he will elucidate the mode in which this uterine milk is absorbed by the placental tufts.—*Med. Times and Gazette*, Nov. 24, 1883.

MATERIA MEDICA AND THERAPEUTICS.

Cotoin and Paracotoin.

Cotoin and paracotoin are two but little-known medicinal agents to which Albertoni has recently given some fresh attention (*Archiv für exp. Path. und Pharmac.*, Sept. 1883). Eight years ago the bark called coto-coto was first brought to England from Bolivia. Of its origin nothing further is known. Two kinds of bark are described, coto verum and paracoto. The chemical composition of cotoin is represented by the formula $C_{22} H_{18} O_6$, which is the active constituent of coto verum. According to Burkart, the subcutaneous injection of one gramme of cotoin into rabbits gives rise to no effect. Pribram believes that this substance possesses antiseptic properties, and he has recommended its use in small doses for some cases of diarrhœa in children. Albertoni finds that repeated small doses increase the appetite of healthy men without causing unpleasant sensations and without producing constipation. Subcutaneous and intravenous injections of alkaline solutions of cotoin performed on rabbits and dogs were followed by no remarkable phenomena. No influence is exerted by this agent on the process of digestion. It does not become dissolved in the gastric juice, but passes unchanged into the intestines. There can be no doubt that the principle is absorbed and excreted by the urine, as Albertoni proved on himself. The characteristic secretions of cotoin consist in the appearance of yellow coloration with alkalies, red tint with nitric acid, and brown-golden with sulphuric acid. Investigations were also made to determine the influence which cotoin might exert on the process of decomposition, either in the intestines or outside the body. Taking the excretion of indol as the guide, it was discovered that during the administration of the drug phenol did not disappear from the urine. Nevertheless, Burkart and Pribram are right when they assert that in cases of diarrhœa under the medicinal use of cotoin the indican in the urine falls off. But Albertoni contends this is a secondary effect which depends on the cure of the intestinal lesion. From other artificial experiments the conclusion is arrived at that cotoin is not able to hinder putrefaction in the development of bacteria either in or outside the animal organism. Injections of solutions of cotoin into